

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant	Lars Severinsson
Serial No. 10/	Filing Date: June 20, 2003
Title of Application:	A Spring Brake Actuator

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

**Preliminary Amendment**

Dear Sir:

Please enter this preliminary amendment before examination of this case.

**Version with Markings to Show Changes Made to the Claims**

**In the Claims:**

1. (Amended) A spring brake actuator [(6)] for use in conjunction with a service brake actuator [(3)] having a rotational operative shaft [(3')], the spring brake actuator [(6)] having an actuator shaft [(11; 11A)] in rotative communication with the service brake actuator shaft [(3)], characterized by

a clock spring or spiral spring [(14; 14A)], attached at its outer end to a spring brake actuator housing [(10; 10A)] and mechanically charged at a rotation of the actuator shaft [(11; 11A)] in a brake release direction,

an electric coil [(15; 15A)] for keeping - when electrically energized - the clock spring in its charged condition, and

transfer means [(12, 24, 18-22; 12A, 18A, 30)] for transferring the rotative energy of the clock spring to the actuator shaft in a brake applying direction, when the coil is deenergized, but allowing free rotation of the shaft in either direction, when the coil is energized.

2. (Amended) A spring brake actuator according to claim 1, characterized in that the transfer means include

a cylindrical hub [(12)], which is rotationally arranged in relation to the shaft [(11)] and to which the inner end of the clock spring [(14)] is attached,

a locking spring [(24)] connecting the hub [(12)] with the shaft [(11)], and  
control means [(18-22)] for controlling the operational condition of the locking  
spring in relation to the hub by means of the coil [(15)].

3. (Amended) A spring brake actuator according to claim 2, characterized in that the  
control means [(18-22)] include in axial order

a brake disc [(18)] in proximity to the coil [(15)] and in splines engagement [(at  
19)] with the hub [(12)], and

a control disc [(22)] in internal engagement with the locking spring [(24)].

4. (Amended) A spring brake actuator according to [any of the preceding claims]  
claim 1, characterized in that the locking spring [(24)] is connected to the hub [(12)]  
by means of a sleeve [(23)] having a certain circumferential play in relation to the  
hub.

5. (Amended) A spring brake actuator according to claim 4, characterized in that the  
sleeve [(23)] has a pin [(23')] engaging a circumferential groove in the hub [(12)].

6. (Amended) A spring brake actuator according to claim 1, characterized in that the  
transfer means include

a cylindrical hub [(12A)], which is rotationally arranged in relation to the shaft  
[(11A)] and to which the inner end of the clock spring [(14A)] is attached,

an axially movable brake disc [(18A)] in splines engagement with the hub  
[(12A)], and

a tooth clutch [(30)] between the actuator shaft [(11A)] and the brake disc, the  
clutch being engaged when the coil [(15A)] is not energized.

7. (Amended) A spring brake actuator according to claim 6, characterized in that the  
tooth clutch [(30)] is spring biased into engagement.